

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Please cancel claims 1-15 and claims 16-30 as follows:

Listing of Claims:

Claims 1-15 (canceled)

Claim 16 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, wherein the bonding target includes an insertion hole for inserting the heating target, and the insertion hole includes a notch formed in an inner edge of the insertion hole on a side facing the resonator.

Claim 17 (new): The ultrasonic welding structure according to claim 16, wherein the notch serves as an acceptance unit that accepts the heating target in a molten state.

Claim 18 (new): The ultrasonic welding structure according to claim 16, wherein the notch serves as a stress relaxing unit that relaxes a stress generated within the heating target due to a contact with the inner edge of the insertion hole.

Claim 19 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, wherein

a surface of the resonator on which the resonator contacts with the heating target is formed in a substantially flat shape, and

the heating target includes a resonator connecting unit that is formed to protrude toward the resonator.

Claim 20 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, wherein

the resonator includes a protruding portion that protrudes from a bottom of the resonator toward the heating target, and

the protruding portion is formed in a substantially semispherical or conical shape.

Claim 21 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, wherein

the resonator includes a protruding portion that protrudes from a bottom of the resonator toward the heating target, and

an inclined surface is formed on the resonator from the bottom of the resonator to a base of

the protruding portion.

Claim 22 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, wherein

the resonator includes a protruding portion that protrudes from a bottom of the resonator toward the heating target, and

the heating target includes a resonator acceptance unit formed at least in a concave shape with relative to the resonator.

Claim 23 (new): The ultrasonic welding structure according to claim 22, wherein
the protruding portion is formed in a substantially semispherical shape, and
the resonator acceptance unit is formed in a substantially conical shape with a diameter large enough to include the protruding portion formed in the substantially semispherical shape.

Claim 24 (new): The ultrasonic welding structure according to claim 22, wherein
the resonator acceptance unit is an elongated hole formed along a direction of pressing the resonator.

Claim 25 (new): The ultrasonic welding structure according to claim 22, wherein
the resonator acceptance unit is a penetrating hole formed along a direction of pressing the

resonator to reach a bottom of the heating target.

Claim 26 (new): An ultrasonic welding structure according to claim 22, wherein a notch is provided in an upper edge of the resonator acceptance unit.

Claim 27 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, wherein the heating target includes

a large-diameter portion located on a side of a base of the heating target; and

a small-diameter portion located on a side of the resonator relative to the large-diameter portion, with a smaller diameter than a diameter of the large-diameter portion.

Claim 28 (new): The ultrasonic welding structure according to claim 27, wherein the bonding target includes an insertion hole for inserting the heating target, and a boundary between the large-diameter portion and the small-diameter portion of the heating target is arranged downward of an upper surface of the bonding target in a state in which the heating target is inserted into the insertion hole.

Claim 29 (new): An ultrasonic welding structure for bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating

target and applying a high frequency vibration from the resonator to the heating target, wherein
the resonator includes

a protruding portion that protrudes from a bottom of the resonator toward the heating target, the protruding portion being formed in a substantially semispherical or conical shape; and

an inclined surface formed from the bottom of the resonator to a base of the protruding portion, and

the heating target includes a resonator acceptance unit in a shape of a penetrating hole formed along a direction of pressing the resonator to reach a bottom of the heating target.

Claim 30 (new): An ultrasonic welding method of bonding a columnar heating target formed with a resin to a predetermined bonding target by pressing a resonator against the heating target and applying a high frequency vibration from the resonator to the heating target, the ultrasonic welding method comprising:

preheating a contact portion of the resonator on which the resonator contacts with the heating target; and

heating including pressing the contact portion heated at the preheating against the heating target to apply a high frequency vibration to the heating target.